

What is claimed is:

1. A semiconductor device comprising:
a semiconductor chip;
5 a sheet on which the semiconductor chip is mounted;
a sealing section in which the semiconductor chip and the sheet are sealed; and
a plurality of leads electrically connected to the semiconductor chip by wires
within the sealing section,
wherein the leads include a first lead which is bonded to the sheet and a second
10 lead which is not bonded to the sheet.
2. The semiconductor device as defined in claim 1,
wherein the sheet is bonded to the first lead on a surface opposite to a surface
on which the wires are provided.
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3. The semiconductor device as defined in claim 1,
wherein the sheet is bonded to the first leads on a surface on which the wires
are provided.
- 20 4. The semiconductor device as defined in claim 3, wherein:
the semiconductor chip overlaps with end portions of the leads; and
the wires are electrically connected to the leads at positions close to the end
portions.
- 25 5. The semiconductor device as defined in claim 1,
wherein the sheet includes a plurality of layers.

6. The semiconductor device as defined in claim 5,
wherein the sheet includes a core layer and an adhesive layer which is formed
on the core layer.
- 5 7. The semiconductor device as defined in claim 1,
wherein the sheet has a shape approximately point-symmetric with respect to
the center of the semiconductor chip.
8. The semiconductor device as defined in claim 1,
10 wherein the sheet includes a plurality of elongated sections extending in
different directions from a position under the center of the semiconductor chip.
9. The semiconductor device as defined in claim 8, wherein:
the sheet has a connecting section which connects the elongated sections at the
15 position under the center of the semiconductor chip; and
the connecting section has a width larger than the width of any of the elongated
sections.
10. The semiconductor device as defined in claim 1,
20 wherein the sheet has a shape having a center opening.
11. The semiconductor device as defined in claim 10, wherein:
the sheet has a plurality of projecting sections provided on the periphery of the
sheet having a closed shape; and
25 the projecting sections are respectively bonded to the first leads.
12. The semiconductor device as defined in claim 1, wherein:

the semiconductor chip has a rectangular shape; and
the first leads are respectively disposed near the midpoints of the sides of the rectangular semiconductor chip.

5 13. The semiconductor device as defined in claim 1, further comprising:
a third lead which extends in the sealing section and is not electrically
connected to any of the wires,
wherein the sheet is bonded to the first and third leads.

10 14. A circuit board on which is mounted a semiconductor device including:
a semiconductor chip;
a sheet on which the semiconductor chip is mounted;
a sealing section in which the semiconductor chip and the sheet are sealed; and
a plurality of leads electrically connected to the semiconductor chip by wires
15 within the sealing section,
wherein the leads include a first lead which is bonded to the sheet and a second
lead which is not bonded to the sheet.

15. An electronic instrument comprising a semiconductor device which includes:
20 a semiconductor chip;
a sheet on which the semiconductor chip is mounted;
a sealing section in which the semiconductor chip and the sheet are sealed; and
a plurality of leads electrically connected to the semiconductor chip by wires
within the sealing section,
25 wherein the leads include a first lead which is bonded to the sheet and a second
lead which is not bonded to the sheet.

16. A method of manufacturing a semiconductor device comprising:
bonding a sheet to a lead frame including first and second leads;
mounting a semiconductor chip on the sheet;
electrically connecting the semiconductor chip to the first and second leads by
5 wires; and
sealing the semiconductor chip and the sheet in,
wherein the first lead is bonded to the sheet and the second lead is not bonded
to the sheet in the step of bonding the sheet to the lead frame.
- 10 17. The method of manufacturing a semiconductor device as defined in claim 16,
wherein the sheet is bonded to the first lead on a surface opposite to a surface
on which the wires are provided.
- 15 18. The method of manufacturing a semiconductor device as defined in claim 16,
wherein the sheet is bonded to the first leads on a surface on which the wires
are provided.
19. The method of manufacturing a semiconductor device as defined in claim 18,
wherein:
20 the semiconductor chip overlaps with end portions of the leads; and
the wires are electrically connected to the leads at positions close to the end
portions.
20. The method of manufacturing a semiconductor device as defined in claim 16,
25 wherein:
the lead frame further includes a third lead which is not electrically connected
to any of the wires; and

the sheet is bonded to the first and third leads.